DEPARTMENT OF TRANSPORTATION

Research and Special Programs Administration

49 CFR Part 192

[Docket No. PS-118; Amendment 192-79]

RIN 2137-AB97

Excess Flow Valve–Performance Standards

AGENCY: Research and Special Programs Administration, (RSPA), DOT.

ACTION: Final rule.

SUMMARY: In the process of routine excavation activities, excavators often sever gas service lines causing loss of life, injury, or property damage by fire or explosion. Excess flow valves (EFVs) restrict the flow of gas by closing automatically when a line is severed, thus mitigating the consequences of service line failures. In this final rule, RSPA has developed standards for the performance of EFVs used to protect single-residence service lines. If an EFV is installed on such a line, it must meet these performance standards.

DATES: This final rule takes effect July 22, 1996.

FOR FURTHER INFORMATION CONTACT: Mike Israni (202) 366-4571, regarding the subject matter of this final rule, or the Dockets Unit, (202) 366-4453, regarding copies of this final rule or other material in the docket that is referenced in this rule.

SUPPLEMENTARY INFORMATION:

Statutory Mandate

In 49 U.S.C. 60110 Congress directs the Department of Transportation to issue regulations prescribing the circumstances under which operators of natural gas distribution systems must install EFVs. If the Department determines that there are no circumstances under which EFVs should be installed, the Department is to report this determination, and the reasons for the decision, to Congress. RSPA, on behalf of the Department, has determined that there are no circumstances under which the Department should require the installation of EFVs, primarily because the costs far exceed the benefits of such installation. RSPA has sent the report of its reasons for this determination to Congress. The report to Congress (April 4, 1995) and the cost/benefit analysis of mandatory EFV installation are available in the docket. Costs and benefits are also discussed later in this document under "Cost/Benefit Analysis."

49 U.S.C. 60110 further requires the Department to develop standards for the performance of EFVs used to protect service lines in a natural gas distribution system. The development of these standards is the subject of this rulemaking.

The statute also requires the Department to issue a rule requiring operators to notify customers about EFV availability and to offer to install EFVs that meet the performance standards, if the customer pays for the installation. RSPA will initiate a separate notice of proposed rulemaking for customer notification.

The Problem

Despite efforts, such as damage prevention programs, to reduce the frequency of excavation-related service line incidents on natural gas distribution service lines, such incidents persist and continue to result in death, injury, fire, or explosion. During the period from March 1991 through February 1994, 30 incidents with consequences that might have been mitigated by an EFV were reported to RSPA. These incidents, mostly excavation-related, resulted in 2 fatalities, 16 injuries, and an estimated $3,249,595 in property damage. Incident history is explained in the November 1991 and January 1995 cost/benefit studies evaluating mandatory EFV installation. Because damage prevention measures are not foolproof, RSPA has sought to identify ways to mitigate the consequences of these incidents. The National Transportation Safety Board (NTSB) and others have proposed EFVs as a means of mitigation.

NTSB Recommendations

NTSB has recommended EFVs as a means of reducing or preventing injury or death from incidents resulting from service line breaks or ruptures. Since 1971, NTSB has issued seven recommendations regarding the use of EFVs in service lines. NTSB's recommendations are summarized and discussed in the Notice of Proposed Rulemaking on this rulemaking (58 FR 21524; April 21, 1993).

The Advance Notice of Proposed Rulemaking (ANPRM)

RSPA issued an ANPRM (55 FR 52188; December 20, 1990) seeking information on the desirability of requiring the installation of EFVs on gas distribution service lines to reduce the damage from service line ruptures. The ANPRM also contained a questionnaire to collect current operational data on the use of EFVs by natural gas distribution operators. The results of the ANPRM were summarized in the NPRM and are available in the docket.

The Notice of Proposed Rulemaking (NPRM)

In 1993, RSPA published an NPRM (Notice 2: 58 FR 21524; April 21, 1993), titled "Excess Flow Valve Installation on Service Lines," that proposed to amend 49 CFR Part 192 to require installation of EFVs on new and replaced single residence service lines operating at a pressure of 10 psig or more. This NPRM also proposed performance standards for EFVs and conditions under which EFVs must be installed. The initial comment period for this NPRM closed June 21, 1993. The NPRM is available in the docket.

RSPA received 140 written comments in response to the NPRM: 14 from industry associations, 1 from an EFV manufacturer, 102 from local distribution companies, 2 from consultants, 17 from Congress, state agencies, and regulatory associations, 3 from transmission companies, and 1 from a group of commenters, designated hereafter as the Joint Commenters (see below).

The Public Meeting

RSPA held a public meeting on June 18, 1993 (58 FR 33064; June 15, 1993) to enable interested parties to present additional comments on several of the issues presented in the NPRM. In the notice announcing the public meeting, RSPA also extended the comment period to July 6, 1993, to allow those not able to attend the meeting to have access to the transcript. Representatives of the American Gas Association (AGA), UMAC (an EFV manufacturer), the Gas

Safety Action Council (GASAC), the National Association of Pipeline Safety Representatives (NAPSR), and NTSB spoke at the meeting. The AGA representative objected to the proposed rule, especially to the expected benefits estimated in the cost/benefit study. GASAC, NTSB, and UMAC supported an EFV rule, but not as proposed. The NAPSR representative noted that in NAPSR's experience EFVs have not been cost beneficial.

The Joint Commenters

On December 20, 1993, a group, designating itself as the Joint Commenters, filed comments that recommended language to include in an EFV rule. The Joint Commenters included GASAC, EFV manufacturers, and two gas pipeline distribution associations. Although not a signatory to the comments, NTSB sent two letters to a pipeline association supporting the Joint Commenters' recommendations. The NTSB letters are available in the docket.

The Joint Commenters did not include representatives from the two major state pipeline safety associations, NAPSR, and the National Association of Regulatory Utility Commissioners (NARUC). NAPSR originally participated in discussions with the Joint Commenters but later dropped out because NAPSR members oppose a federal requirement to install EFVs. The comments from NAPSR are available in the docket.

The Joint Commenters recommended regulatory language that their signatories would support if RSPA were to adopt this recommendation as a final rule. In a Notice of Reopening Comment Period, RSPA reopened the comment period to solicit comment on the safety merits of the Joint Commenters' recommended language (59 FR 39319; August 2, 1994). The reopened comment period closed October 3, 1994. In addition to seeking comments on the safety merits of the recommendation, RSPA also sought comment on: whether to allow EFVs with a bypass feature; whether, and to what extent, the presence of contaminants in the gas stream should preclude installation of an EFV; and whether RSPA should delay issuing a rule until industry performance standards for EFVs are developed.

An additional 70 comments were received in response to the Notice of Reopening Comment Period: 7 from industry associations, 1 from an EFV manufacturer, 56 from local distribution companies, 5 from Congress, state agencies, and regulatory associations, and 1 from a transmission company. A discussion of the 140 comments to the NPRM and 70 comments to the Notice of Reopening Comment Period and RSPA disposition of these comments is found below.

Advisory Committee Review

The Technical Pipeline Safety Standards Committee (TPSSC) was established by statute to evaluate the technical feasibility, reasonableness, and practicability of proposed regulations. The TPSSC met on August 3, 1993, in Washington, DC, to consider the EFV standards proposed in the April 1993 NPRM. The TPSSC voted 11 to 0 against adopting the proposed rule as written. In addition, the TPSSC voted 10 to 1 against RSPA issuing any rule on EFVs. However, the TPSSC voted 10 to 1 to respect the wishes of Congress and to provide support for the Congressional mandate as implemented by RSPA. RSPA addresses each of the TPSSC's recommendations in the discussion of comments below.

Petition for Rulemaking

On July 14, 1995, AGA submitted a petition for rulemaking on EFV performance standards and customer notification requirements. In this petition, AGA urged OPS to adopt industry performance and manufacturing standards as soon as they are available and, in the interim, to adopt the performance standards recommended by the Joint Commenters. RSPA is not required to consider those comments in the petition pertaining to performance standards since the comments were received well after the close of the re-opened comment period. However, RSPA notes that those comments do not raise any issues not already raised in prior comments and addressed in this rule.

RSPA will consider the bulk of AGA's petition dealing with customer notification requirements in the customer notification rulemaking.

Cost/Benefit Analysis (Mandating EFV installation)

RSPA recognizes the beneficial safety effects of EFVs. However, after extensive study and rulemaking, RSPA has decided not to require the installation of EFVs, primarily because the costs far exceed the benefits of such installation.

Many comments to the NPRM and Notice of Reopening Comment Period cited the need for RSPA to redo the cost/benefit study that had been prepared to accompany the NPRM. Commenters said incident frequency, fire and police response costs, and property damage costs were overstated. The most frequent objection was that RSPA overestimated property loss and fire fighting costs for incidents with less than $5,000 in property damage. Commenters pointed out that leaks occur with greater frequency than incidents and that, by equating leak repair reports with incident reports, RSPA overstated the benefits to be gained. Many commenters also said that the $20 estimated cost to install an EFV was too low.

In light of the commenters' criticisms, RSPA thoroughly reexamined the cost/benefit study. The revised study included updated data regarding service line incidents and revised information on related costs and anticipated benefits. In the most significant benefit change, RSPA reduced its estimate of the number of nonreportable incidents that could have benefitted from an EFV installation. Criticisms of its estimates on nonreportable incidents led RSPA to conclude that the original estimate, over 143 thousand per year, significantly overstated the number of nonreportable incidents whose consequences might be mitigated by EFVs. RSPA used a different approach to develop a more reasonable estimate, approximately 13 thousand per year, for the final study. This revised number of nonreportable incidents is largely responsible for the decrease in the present value of the benefits from $21.02-$35.00 per service in the draft study to $7.42 per service in the final study.

In other changes, RSPA revised its cost estimate by using the mid-point of the cost-range in EFVs. The original estimate looked only at the EFV cost to the largest current installers of EFVs, whereas the revised estimate considered the EFV cost to all current installers of EFVs. RSPA also used newer incident data to develop better estimates of the consequences of incidents before and after an EFV installation.

As a result of RSPA's reexamination of the cost/benefit study, the present value of costs changed from the draft study figure of $20.20 per installed EFV with a bypass to a final study figure of $30.29. In addition, in the final study, the present

value of costs for an EFV with positive shutoff was estimated to be $37.09 per installed EFV.

The final cost/benefit study found the cost of installing an EFV to exceed the benefits by a 4.5:1 ratio. This result, along with consideration of other criticisms of a rule requiring installation, discussed in more detail below, led RSPA to determine that it would not require installation but would require that any EFV installed meet certain performance criteria. The final cost/benefit study explains in detail how each cost and benefit was calculated. Both the draft and final cost/benefit studies examining EFV installation are available in the docket.

The Final Rule

The final rule establishes a new section in the pipeline safety regulations, §192.381, "Service lines: Excess flow valve performance standards." For the reasons previously explained, the final rule does not require installation of EFVs. In accordance with 49 U.S.C. 60110, the rule sets performance standards for any EFV that will be used in a single-residence gas service line operating continuously at not less than 10 psig. The final rule incorporates almost all the performance standards that the Joint Commenters recommended, rather than those RSPA proposed in the NPRM.

An EFV will have to be manufactured and tested by the manufacturer according to an industry specification or a manufacturer's written specification to ensure that the EFV will function properly up to its rated maximum operating pressure and at all temperatures expected in the service line's operating environment. An EFV, like any other valve, will have to comply with subparts B and D of Part 192. The required tolerance has been raised so that an EFV will be required to close at, or not more than 50 percent above the rated flow, instead of at the proposed 10 percent. As commenters requested, an operator will have the choice of using an EFV with either a positive shutoff or bypass feature. Upon closure an EFV must reduce the gas flow to no more than 5 percent of the manufacturer's specified minimum flow rate, up to a maximum of 20 cubic feet per hour for a bypass-type EFV or 0.4 cubic feet per hour for a positive shut off-type EFV. An operator will have to mark or otherwise identify the presence of an EFV in the service line.

Several proposed performance requirements have not been adopted. An EFV will not have to comply with the requirements of §§ 192.363 and 192.365 that apply to other service line valves. Service line capacity will not have to exceed the manufacturer's EFV flow rating by 50 percent. An EFV will not be required to be tested upon installation and each time a customer's meter is removed or replaced, or to close automatically if the customer's meter, regulator or service valve is sheared off. Furthermore, an operator will not be required to verify the rated flow or replace an EFV that does not close automatically.

The final rule recommends that an operator locate an EFV beyond the hard surface and as near as practical to the fitting connecting the service line to its source of gas supply to ensure that the EFV protects the maximum length of service line and to assist in locating the EFV. The final rule also recommends that to augment performance reliability, an operator not install an EFV where the contaminants in the gas stream will cause the valve to malfunction or interfere with necessary operation and maintenance activities on the service line, such as blowing liquids from the line.

Discussion of Comments

Although comments were submitted in response to the proposal to require installation of EFVs, these comments were also relevant to developing a performance standards rule. Many of the comments focussed on the performance criteria RSPA included in the proposal.

General Comments–Except for NTSB, valve manufacturers, and GASAC, virtually all of the 140 commenters to the NPRM objected to the proposed rule on installation. The major objections were that EFV installation should not be federally mandated, that each state pipeline authority should be allowed to establish the rules for its state; that a positive shutoff EFV should not be required; that testing an EFV while in service is unnecessary and overly expensive; that EFV installation should be delayed until industry standards are developed; and, that the cost/benefit study supporting the proposed rule is flawed. The majority of commenters also maintained that EFV installation should not be required where contaminants could cause the EFV to malfunction and inadvertently shutoff service to the customer.

Nearly all of the 70 commenters responding to the Notice of Reopening Comment Period proposed that RSPA adopt the Joint Commenters' recommendations on performance language because the recommended language was less objectionable than the NPRM's proposed language. The commenters also favored giving an operator the option to install either a bypass or positive shutoff EFV. Overall, because of concerns about EFV reliability, gas distribution operators favored waiting until industry standards are developed and accepted before requiring installation of EFVs. Many commenters restated their objection to the findings of the cost/benefit study.

Six large operators operating at least 9 million service lines (18 percent of all U.S. service lines) opposed both the NPRM's proposal and the Joint Commenters' recommendations. The operators' major objections were that the cost/benefit study grossly overstated benefits, that industry standards are needed because EFVs do not operate reliably, and that costs to remove EFVs after a malfunction are high.

Comments about the cost/benefit study have previously been discussed. Other general comments are discussed below, as well as specific comments about each RSPA-proposed performance standard and the associated Joint Commenters' recommendation. To avoid repetition, similar comments are discussed in only one section.

Discussion on State vs. Federal Mandate

Comments–NAPSR expressed opposition to any federal mandate to install EFVs, arguing that any such regulatory requirements should be at the state level. On two occasions NARUC passed resolutions proposing that any requirement for EFVs be determined by the individual state pipeline safety agencies. The NARUC Subcommittee for Pipeline Safety polled the state regulatory agencies, gathered data, and prepared a report of its findings. NARUC found that only two states, Massachusetts and New York, favored a federal mandate to install EFVs.

Six major operators (three operating in California) opposed any federal requirement to install EFVs, arguing that states should be allowed to determine the need for EFVs based on state-developed criteria.

Response–Because of RSPA's decision not to issue a rule requiring the installation of EFVs, each state will be able to determine if it should require such installation based on circumstances unique to that state.

Industry Standards

In the absence of standards by an industry-sponsored safety standards committee, RSPA proposed several requirements for the manufacture and operation of any EFV that would be installed in a single-residence gas service line. The Joint Commenters' recommendation also included performance standards for single-residence gas service lines.

Comments on NPRM–Many commenters said RSPA should not issue a final rule until industry manufacturing and performance safety standards are prepared and adopted. The TPSSC recommended that RSPA initiate the development of standards by The American National Standards Institute (ANSI), American Society of Testing Materials (ASTM), or other nationally recognized and accredited organization for the manufacture, testing, and operation of EFVs. The TPSSC further recommended that when such standards are enacted, RSPA should issue an NPRM for EFVs incorporating such standards for TPSSC review. The Gas Piping Technology Committee (GPTC) commented that its ANSI/GPTC Z380 committee was developing performance, operating, and installation guidelines for EFVs. GPTC said guidance will be offered on choosing operating pressure ranges, flow rates, bleed-by, and reset characteristics, length and diameter of service piping, inline contaminants, purging procedures, joining methods, and service line locations.

Comments to Notice of Reopening Comment Period–Many commenters said RSPA should take no final action until industry standards are available because standards would assure EFV reliability. Many others said RSPA should issue a final rule but grant a one year delay in implementation to give the industry committees time to complete manufacturing and operational standards. Several commenters said the ASTM F17 committee is preparing testing standards and the ANSI/GPTC Z380 committee is preparing guidelines that should be completed in 1995.

Response–RSPA agrees that to achieve performance reliability and the desired safety benefits, specifications are necessary to ensure uniformity among EFVs installed in service lines. Because the NPRM proposing required installation only sought comment on performance standards applicable to EFVs installed in single-residence service lines, this final rule limits EFV performance standards to that application. Once industry standards are developed for EFVs used in other applications, such as multiple residences and commercial enterprises, RSPA will consider seeking comment on proposed performance standards for those applications.

The final rule requires that when an EFV is installed in a single residence service line, the EFV must be manufactured and tested by the manufacturer according to an industry specification, or to a manufacturer's written specification to ensure the EFV performs specified minimum functions. These specifications will ensure that an EFV functions properly up to the maximum operating pressure at which it is rated and at all temperatures reasonably expected in the service line's operating environment. These specifications will further ensure that an EFV is sized to close within 50 percent of the rated closure rate, to reduce gas flow upon closure to specified rates, and to not close when the pressure and flow rates are less than the manufacturer's specified minimums.

In addition, an EFV must comply with the general requirements of Subparts B and D of part 192. While subparts B and D do not include operational requirements specific to an EFV, they do include general material and design standards applicable to any valve in a pipeline system.

Many commenters, including several industry committees, indicated that EFV standards are forthcoming. However, until industry finalizes EFV standards, the requirement that an EFV perform specified functions according to a manufacturer's written specifications will ensure that an EFV performs reliably and safely. Moreover, final industry performance specifications are likely to be similar to manufacturers' specifications, because valve manufacturers are often members of the industry organizations that develop such specifications.

Proposed Section 192.381(a)–(regarding §§ 192.363 and 192.365 gas pipeline valve requirements)–RSPA proposed in the NPRM that EFVs must comply with the requirements of §§ 192.363 and 192.365. These existing sections establish requirements for all valves in gas service lines.

Comments–Several commenters stated that §§ 192.363 and 192.365 should not apply to EFVs. Commenters pointed out that these requirements apply to the design of service line manual shut-off valves and would conflict with the proposed EFV requirements. For example, commenters noted that the §192.365(c) requirement to locate valves in a covered durable box or standpipe is intended to allow for ready operation of a service line manual shut-off valve. Therefore, it would be unnecessary and costly to apply this requirement to an EFV, which is an automatic valve not requiring access for manual operation.

Response–After further study, RSPA agrees that valve requirements concerning the use of a durable box or standpipe do not apply to EFVs, and the other requirements of §§ 192.363 and 192.365 apply only to manual shut-off type valves, not EFVs. Accordingly, the proposed requirement that EFVs comply with §§ 192.363 and 192.365 has not been adopted.

Proposed Section 192.381(a)– (10 psig requirement)-RSPA proposed that an EFV be installed on each newly installed or replaced single residence service line that operates at a pressure not less than 10 psig.

Comments–Many commenters to both the NPRM and the Notice of Reopening Comment Period requested clarification of the 10 psig threshold. Many commenters asked if the requirement would apply if pressure in the pipeline system drops below 10 psig at any time during the year.

Response–RSPA is not requiring operators to install EFVs on any single-residence service line, whatever its operating pressure. However, RSPA does not want an EFV, if installed, to cause a loss in service, especially at a time when the service is most needed by the consumer, such as during the winter heating season. Thus, the performance standards have been established for EFVs that are installed on a service line that operates at or above 10 psig continuously during the year. Setting the performance standards at this threshold is influenced by two of the largest users of EFVs who, as standard practice, limit EFV installation to service lines in systems where service line inlet pressure does not drop below 10 psig during the year.

Because service line pressure will most likely be at its lowest level during the coldest weather, especially in colder climates, an operator should consider the pressure drop in the service line due to the restriction of gas flow caused by an EFV. If pressure drop is considered, an EFV should not cause a reduction in safety or loss of service in any service line.

Proposed Section 192.381(a)–(replaced service lines)–RSPA proposed that EFVs be installed on certain new and replaced service lines.

Response–This proposal is no longer relevant since EFV installation is not being required.

Proposed Section 192.381(b)(1)–(installation)–RSPA proposed in the NPRM that an EFV be installed as close to the main or transmission line as practicable. The Joint Commenters recommended installation in or as near as practicable to the service line fitting connecting the service line to its gas supply.

Comments–Many commenters suggested RSPA remove any reference to transmission lines in the rule. Several commenters said EFVs are not available that will withstand transmission line pressures. Others stated that the statutory mandate was intended to apply only to distribution systems. The TPSSC voted 7 to 4 that all references to transmission lines be dropped from the proposed rule.

A few commenters objected to what they thought was the proposed requirement to install EFVs immediately downstream of the service-to-main connection when the line serves more than one residence (branch service). Other commenters were concerned that the proposed rule would require EFV installation below hard surfaces such as asphalt or concrete, making installation very costly.

Response–In the NPRM, RSPA intended that all new and replaced service lines, whether from a main or transmission line, where the source of gas supply consistently operates above 10 psig, be required to have an EFV installed. The reference to "main" and "transmission" lines was intended to cover farm taps, as farm taps are also subject to the type of incident that could benefit from an EFV. The final rule deletes the reference to "main" and "transmission" and sets performance standards for EFVs installed on single-residence gas service lines. By referring to "service" line, RSPA intends for the standards to apply if an EFV is installed on a farm tap. A farm tap operates as a service line when a local distribution company operates a metered farm tap on a transmission line delivering gas to a farmer or other landowner. Accordingly, although the rule does not require installation on any single-residence service line, an EFV that meets the required performance standards can be installed on a service line from a main or a branch off a transmission line.

RSPA never intended that an EFV serve more than one family residence. RSPA recognizes that an EFV would be difficult to size when the gas supply is serving multiple residences because of widely varying gas volume through the EFV. Because of this difficulty, the performance standards in this final rule are limited to EFVs that are installed on single-residence service lines.

RSPA agrees that removing an EFV under a hard surface would be overly expensive if an EFV failed to function. Therefore, RSPA recommends that an EFV be located beyond the hard surface and as near as practical to the fitting connecting the service line to its source of gas supply.

Proposed Section 192.381(b)(2)–(Section 192 Subparts B & D)–As noted above, the NPRM proposed and the Joint Commenters recommended that EFVs meet the applicable requirements of subparts B and D of part 192.

Comments–No substantive comments were received on this proposal.

Response–Subpart B establishes minimum requirements for selection and qualification of materials to be used in pipelines. Subpart D prescribes minimum requirements for the design and installation of pipeline components and facilities. Since these requirements are general performance requirements that apply to all valves, they are included in the performance requirements applicable to EFVs.

Proposed Section 192.381(b)(3)–(bypass)–RSPA proposed that an EFV be designed to prevent pressure equalization across the EFV after the EFV closes, thereby prohibiting an operator from installing an EFV with a bypass feature. The bypass feature allows pressure to equalize and the EFV to automatically reopen after closure because it allows a small amount of gas to pass through the EFV. In contrast, a positive shutoff feature allows only minute amounts of gas to pass through the EFV after it closes, and requires backpressuring downstream to reset the EFV. The Joint Commenters' recommendation would allow either type of EFV.

In the Notice of Reopening Comment Period, RSPA sought comment on the safety of using EFVs with or without the bypass feature and gave two examples, provided by two large local distribution operators, of potential dangers that might be caused by the bypass feature. RSPA also asked for comments on the conditions under which automatically resetting EFVs should or should not be required in residential service lines and on the linkage between the bypass feature and unauthorized repairs to damaged service lines.

Comments to NPRM–Many commented on the proposal prohibiting the use of EFVs with a bypass feature. Commenters, including several at the public meeting, were virtually unanimous in favor of an operator having the option to select an EFV with either the bypass or positive shutoff feature. Similarly, the TPSSC voted 9 to 2 in favor of an operator having this option.

Various reasons were given for not prohibiting the installation of bypass EFVs. Several commenters, including an industry association, complained that RSPA proposed the positive shutoff requirement without sufficient justification in the cost/benefit study. One commenter said that additional costs of at least $250 per utility crew would be incurred to provide backpressure downstream of the EFV to equalize the pressure and reset the valve. This commenter said these services would necessitate extra equipment, including a compressed natural gas tank or portable natural gas compressor, and additional piping, fittings, and hoses. Other commenters mentioned additional hazards to personnel in hauling and connecting compressed natural gas. Another commenter was concerned with customer inconvenience because a service call would be necessary to backpressure the EFV, delaying restoration of service.

Many commenters argued that bypass-type EFVs do not pose a significant safety risk. Commenters maintained that operators that regularly install EFVs have had no incidents resulting from use of bypass-type EFVs. Three of the largest voluntary users of EFVs (with over 300,000 EFVs in service) commented that their data did not show an incident having occurred due to a bypass- type EFV. An EFV manufacturer commented that it has no knowledge of bypass gas ever contributing to a natural

gas incident. NTSB and many operators echoed these assurances.

Several commenters, including EFV users, said RSPA's concern that the bypass feature would allow irresponsible excavators to make repairs is unfounded. A few commenters said that positive shutoff EFVs would cause more safety problems than bypass-type EFVs because an excavator could sever a service line unknowingly if the positive shutoff were to completely stop the gas flow and any released odor from reaching the atmosphere. Conversely, these commenters argued that a failed service line with a bypass would continuously release gas and leave a readily detectable odor. Commenters noted other potential problems with positive shutoff EFVs. For example, a commenter in Alaska pointed out that an earthquake in the winter could cause EFVs to engage and, if positive shutoff EFVs were used, each would have to be backpressured and each customer's appliance re-lighted. During an Alaskan winter this could take days.

The Gas Research Institute (GRI) stated that its tests of EFV models showed all the tested models were affected by pressure surges of 5 psi or more and that opening, closing, or throttling a main line valve could activate an EFV, causing a false closure. The research organization said RSPA could infer from these results that the use of EFVs without the bypass could cause extended distribution service outages. GRI further stated that it knows of no reports of bypass flow in an EFV having led to or increased the severity of an accident.

GASAC commented that RSPA should allow each operator to determine the type of valves for its system. Other commenters echoed this statement. Even among those operators opposed to a mandatary [sic] rule, most said that if a rule were issued, the choice of which type of EFV to use should be left to the operator.

Comments on the Joint Commenters' Recommendation–Many commenters supported the Joint Commenters' recommendation to allow the use of a bypass-type EFV. Many commenters said it is not appropriate to depend on an EFV's design to prevent unauthorized repairs. Rather, unauthorized repairs should be controlled by stiffer penalties and better enforcement of damage prevention laws. These commenters maintained that EFVs are used to provide safety when a service line is severed, and should not be expected to perform functions beyond their intended purpose.

Many commenters said excavators who damage service lines may make unauthorized repairs regardless of whether a bypass-type EFV, a positive shutoff EFV, or no EFV is installed. RSPA recognizes the validity of this statement and that EFVs with either feature are not likely to have a substantial effect in either reducing or increasing the frequency of unauthorized repairs on a broken service line.

To dispel RSPA's concern about the potential danger of bypass- type EFVs and gas discharge into a residence, an operator explained that since natural gas is only about 0.6 times the density of air, any raw gas passing through a vented appliance would exhaust to the atmosphere through the chimney. The operator concluded that household gas ranges (or space heaters) without burner safety pilots are the only paths for raw gas to disperse through a building. The operator cited a recent study by NOVA, a Canadian chemical and pipeline company, that demonstrated that a rate of raw gas buildup in a small residence (300 square feet) would have to be about 60 cubic feet per hour to reach an ignitable level in five hours. This allows a five hour period for someone to discover the gas release before the ignitable level is reached. A bypass-type EFV allows 20 cubic feet of gas per hour. Therefore, natural gas that is passing through an EFV with a bypass would take several hours to accumulate to the ignitable range in a building.

Response–RSPA has been concerned that excavators could repair a service line break equipped with an EFV with a bypass feature, the EFV would automatically reset, and service would be restored without the operator knowing that the line had been damaged. Consequently, gas could then pass into and accumulate in a residence where the pilot light on a gas appliance had been extinguished during the service line break.

RSPA was also concerned that restoration of gas service with unvented appliances would cause a rapid buildup of the gas/air mixture to an ignitable level. Commenters have posed circumstances under which such a buildup could occur. However, in response to its questions about this problem, RSPA did not receive any information that such an incident has actually occurred. Furthermore, an EFV manufacturer and AGA have assured RSPA that bypass-type EFVs operate properly to avoid unintended gas buildup within a building. An operator with 20,000 installed bypass-type EFVs stated that bypass gas from a tripped EFV had never caused or contributed to an unsafe situation on its system. Other operators made comparable statements. The NOVA study, described above, further allays RSPA's concern. Therefore, based on the record in this rulemaking, RSPA accepts the premise that EFVs with a bypass feature are safe.

RSPA also finds acceptable the Joint Commenters' recommendation to limit gas flow to 20 cubic feet per hour for bypass-type EFVs and to 0.4 cubic feet per hour for positive shutoff-type EFVs. Because EFVs with positive shutoff features were proposed in the NPRM, RSPA did not propose EFV flow limits. However, RSPA agrees that the limits recommended by the Joint Commenters are reasonable and feasible design requirements.

Accordingly, the final rule allows either bypass or positive shutoff EFVs. Closure flow rates will be limited to 20 cubic feet per hour for the bypass-type EFV and 0.4 cubic feet per hour for the positive shutoff EFV.

Proposed Section 192.381(b)(4)–(installation testing)–RSPA proposed that upon original installation of an EFV and each time the meter is removed or replaced, the EFV be tested to determine if it closes automatically. The Joint Commenters' recommendation deleted the requirement.

Comments–All 37 commenters on this proposed requirement asked that it be deleted. Most commenters stated that the test would require that the service line be disconnected from the meter set, the service valve at the meter opened, and gas vented to the atmosphere to trip the EFV. Many commenters said that venting of the gas near the residence, or inside the residence when the meter is indoors, would be hazardous and would needlessly release methane into the atmosphere contrary to the goals of the Clean Air Act.

An EFV user stated that it does not test the EFV when replacing meters. This commenter stated that it replaces one-tenth of its meters annually and provided RSPA a summary of the steps involved in testing an EFV when a meter is replaced on an existing service. This commenter further stated it would take a two person crew a full day to test an EFV, resulting in substantial cost with no corresponding benefit. The American Public Gas Association (APGA) commented that the proposed testing would add significantly to the costs of using EFVs with no

corresponding safety benefits and noted that these costs were not included in the cost/benefit analysis.

Several other commenters also noted that this proposed requirement had not been covered in the cost/benefit analysis and provided data on the costs that would be incurred for such tests. AGA estimated that 3 million services have meters removed each year, so that the tests could cost $100 million per year, doubling RSPA's estimated installation cost of $20 per EFV (with bypass feature). These same commenters contended that testing positive shutoff EFVs would cost even more.

AGA and other commenters concluded that such tests would require removing the service regulator or installing a fitting to allow gas to be vented upstream of the service regulator because the flow of gas passing through a service regulator may be too small to cause the EFV to trip. These commenters said that such a fitting would invite a resident to bypass the meter and steal gas.

The TPSSC voted 8 to 2 that no in-service testing of an EFV be required.

Response–Based on the comments about problems and costs of installation testing, the final rule will not require an operator to test the EFV when the EFV is installed or when the meter is removed or replaced. However, the requirement that the EFV must be manufactured and tested to an industry specification or manufacturer's written specification to ensure that the EFV functions properly up to the rated maximum operating pressure will certainly require random sample testing at the manufacturer's plant. Such sample testing is routinely conducted for all other valves in accordance with manufacturing standards.

Proposed Section 192.381(b)(5)– (automatic closure)–RSPA proposed that an EFV must close automatically if the service line is severed or if the customer's meter, regulator, or service valve is sheared off. The Joint Commenters' recommendation did not include such a requirement.

Comments–All seventeen commenters on this proposed requirement argued that it should be deleted. Most commenters stated that operators cannot guarantee that an EFV will perform as designed and warranted by the manufacturer. One commenter said that it would be difficult to comply with such a requirement because EFVs often fail to activate (due to fluid friction) in longer service line lengths of ½-inch pipe. Also, even if the meter set is sheared off, the flow rate may not exceed the EFV activation flow rate because the pipe may be squeezed off at the point where it is sheared, or because there are other restrictions in the line.

One EFV user stated that costs for assuring that an EFV closes automatically would approach $1,000 per installation. This commenter reasoned that an EFV is intended to help reduce the effects of dig-ins on a service line in the area of the street, where most excavation takes place, and requiring the EFV to do more than intended will increase costs.

The TPSSC voted 7 to 3 that the proposed requirement be changed so that an EFV "be designed to close automatically if the service line is ruptured downstream of the valve."

Response–RSPA agrees with the commenters that flow rate may not always exceed an EFV's activation flow rate because a long service line could cause excessive pressure drop, or a line could be squeezed off at the point where it is sheared, or there could be other restrictions in the line. Therefore, RSPA is not including proposed §192.381(b)(5) in the performance standards. However, the final rule (§192.381(c)) requires that an EFV be manufactured according to an industry specification or manufacturer's written specification that will establish shutoff requirements for conditions comparable to a service line being severed or a meter set being sheared off.

Proposed Section 192.381(b)(6)– (sizing)–RSPA proposed that an EFV be sized to close within 10 percent of the rated flow specified by the manufacturer. The Joint Commenters recommended a closure rate not less, and not more than 50 percent higher, than the manufacturer's specified closure flow rate.

Comments to NPRM–The 32 commenters objected to this requirement. Most commenters suggested that the proposed 10 percent tolerance be raised to 50 percent because EFVs are not precision instruments. Some commenters suggested a 25 percent tolerance. Most commenters said that EFVs with 10 percent tolerance are not commercially available and would be significantly more expensive. GASAC also opposed the requirement as excessive.

AGA provided exhaustive information showing that EFVs with a 10 percent tolerance are not commercially available and may not be possible to mass produce. AGA suggested a 50 percent tolerance and cited a Gas Research Institute (GRI) study regarding EFV performance repeatability. In 1985, GRI tested seven EFV models and found that closure flows of a single copy were repeatable within a range of 6.4 percent to 20.8 percent, whereas closure flows between two arbitrary copies of the EFVs were repeatable within the range of 15.4 percent and 87.9 percent. None of these models would have met the RSPA proposed requirements. AGA provided an EFV manufacturer's graphs showing that none of the currently available EFVs tested by that manufacturer closed within 10 percent of the rated closure.

Comments on Joint Commenters' Recommendation–A member of the Joint Commenters said its analysis of service ruptures found that EFVs could close as much as 50 percent over specified closure flow and still reliably close in the type of accident EFVs are meant to address. Three other commenters agreed with the Joint Commenters' recommendation.

The TPSSC voted 7 to 4 that the rule specify that an EFV must close no lower than its rated flow and not more than 50 percent above rated closure flow.

Response–Although no EFV is currently available at an acceptable cost that will conform to a 10 percent tolerance, RSPA believes that distribution operators must have a specified closure range for an EFV that is reliable. The requirement that an EFV activate at, or 50 percent above, a specified flow level provides an acceptable closure range in accordance with currently available EFVs. Accordingly, RSPA will require an EFV be sized to close at or 50 percent above the rated closure flow rate specified by the manufacturer.

Proposed Section 192.381(c)– (flow rate verification)–RSPA proposed that the operator verify the manufacturer's rated flow for the EFV by testing at a pressure of 10 psig for the gas to be transported in the service line. The Joint Commenters recommended that the manufacturer certify the EFV meets the manufacturer's written performance specifications, rather than place this responsibility on the operator.

Comments to NPRM–Thirty six commenters responded to RSPA's proposed requirement. Virtually all commenters objected to any operator responsibility for testing and suggested the requirement be deleted. Most commenters contended that operators cannot guarantee the performance of an EFV, but should be able to rely on the manufacturer to certify that EFVs meet the

applicable standards–the approach allowed for other valves used in gas distribution systems. An EFV manufacturer also agreed that it should be the manufacturer's responsibility to test and certify EFVs. Most commenters stated that the proposed requirement would significantly increase an operator's costs.

Comments on Joint Commenters' Recommendation–An industry association agreed with the recommendation to allow an operator to rely on the manufacturer's certification that EFVs meet performance standards rather than have the operator test each EFV. The association pointed out that RSPA allows such a procedure under §192.145.

Response–RSPA agrees with the commenters that the flow rate verification test should be an EFV manufacturer's responsibility, not the operator's. Thus, the final rule requires that an EFV be manufactured and tested by the manufacturer according to an industry specification, or manufacturer's written specification to ensure that each valve will perform specified minimum functions. This requirement should lead to a random EFV testing program by the manufacturer, similar to testing for other system valves. Currently, certain valves (cast iron and plastic) are installed that meet the specified manufacturing tests in §192.145. All other valves must be manufactured according to specifications in American Petroleum Institute (API) Standard 6D, which also requires random testing by the manufacturer.

Proposed Section 192.381(d)–(replacement)–RSPA proposed that if an EFV does not close automatically during installation testing or when the service line is severed, it must be replaced with an EFV that closes as required. The Joint Commenters' approach would remove any requirement to assure that an EFV closes after installation.

Comments–None of those commenting on RSPA's proposal was entirely satisfied with it. Seven commenters suggested changes that included permitting the operator the option to repair or replace an EFV that doesn't close. These commenters further proposed exempting a location from the installation requirement after two EFVs do not perform properly at that location.

One operator questioned what constitutes satisfactory closure by explaining that minor accumulations of dust and dirt can interfere with an absolute 100 percent shutoff. This commenter said that RSPA should conduct additional studies to ascertain what long-term performance characteristics can be expected and include acceptable criteria in the rulemaking.

Eight commenters said the requirement was not needed or questioned the apparent intent to require the operator to keep replacing an EFV until one performs as required. Several said that the requirement assumed that an EFV's failure to close is always the valve's fault. Commenters explained that many factors influence the operation or performance of an EFV, including changes in operating pressures and the type of gaseous mixtures flowing through the service line. They suggested the practical approach would be to allow the utility to repair and replace an EFV at its own discretion as it does with other valves in its system.

Response–RSPA's proposed requirement that an operator replace an installed EFV if it fails during installation testing or during a service line break, is no longer applicable since on-site testing and mandatory EFV installation are not being required in this final rule. Instead, an EFV must be manufactured and tested by the manufacturer according to an industry specification or manufacturer's written specification to ensure that the valve will function properly. Furthermore, replacement or removal of a defective EFV will be left to agreement between the customer and operator.

Section 192.381(e)– (manufacturing specifications)–RSPA proposed that each EFV must be manufactured in accordance with written specifications that assure the EFV meets the manufacturer's published pressure and flow rate criteria. The Joint Commenters recommended that, instead, an EFV be manufactured and tested by the manufacturer according to a written specification to ensure that the EFV will function properly up to the maximum rated operating pressure and at all temperatures reasonably expected. The Joint Commenters further recommended that an EFV not close when pressures are below the manufacturer's minimum pressure.

Comments–Fourteen of the fifteen commenters responding to RSPA's proposed requirement were dissatisfied with the wording and recommended changes. These commenters stated that this provision appeared to shift responsibility for quality assurance from the manufacturer to the gas distribution operator who cannot assure that the manufacturer will produce valves meeting the manufacturer's published pressure and flow rate criteria. Commenters further stated that because of liability concerns there should be an industry EFV standard by which the valves should be manufactured. APGA also argued that manufacturers, not gas distribution operators, should be responsible for assuring that EFVs meet the necessary performance criteria.

Response–RSPA agrees that the proposed requirement was unclear as to who would be responsible for assuring that an EFV meets the specified performance requirements. Accordingly, the final rule clarifies that an EFV will have to be manufactured and tested by the manufacturer according to an industry specification or manufacturer's written specification to ensure that each valve meets the specified minimum performance standards.

Proposed Section §192.381(f)–(service line capacity)–RSPA proposed that service line capacity must exceed the EFV manufacturer's flow rating by 50 percent. The Joint Commenters' approach did not include a similar requirement.

Comments on NPRM–Thirty three commenters responded to this proposed requirement. Five commenters said that maintaining a flow rate at least 50 percent over the rating of the EFV would severely restrict an operator and increase costs. These commenters explained that such a high flow rate would, in many cases, require the installation of service lines larger in diameter than required for a customer's load and also preclude the insertion of plastic tubing. These persons recommended reducing the flow rate margin to 25 percent.

Most commenters opposed establishing arbitrary excess flow capacity. These commenters stated that the sizing of service lines is the operator's responsibility and that many factors must be considered, such as costs, current and future loads, the possibility of future insertions, and future maintenance requirements.

Response–RSPA agrees that a requirement to design a service line with excess capacity is not necessary for an EFV to function properly and would add unnecessary expense. Thus, the final rule does not require that service line capacity exceed the EFV manufacturer's flow rating by 50 percent. This approach is consistent with Part 192, which does not require installation of service lines larger than required to meet the customer's load.

Proposed Section 192.381(g)–(Marking)–RSPA proposed that each

service line with an EFV be physically marked or labeled in the field, so that the label would be readily visible to gas company employees.

Comments on NPRM–Twelve commenters said that requiring service lines with EFVs to be identified is unnecessary and is of little benefit. One commenter, currently using EFVs and marking those service lines, said it does not believe that marking should be required. Several commenters stated that marking service lines is futile due to customers painting the meter set, weather deterioration, and vandalism. A few commenters suggested that the operator have the option to mark or record the location of these valves. However, eight commenters supported the requirement, saying it is a good safety practice for gas company operator personnel, when arriving at a residence, to know if an EFV is installed in that service line.

Comments on Joint Commenters' Recommendation–The Joint Commenters' recommendation did not include a requirement to mark services in the field. An industry association supported the Joint Commenters' approach and further recommended that the operator be allowed the option to mark services in the field or record EFV installation on its maps and records.

Response–RSPA believes it is helpful for operating personnel to know if an EFV is installed in a service line. In a service outage or emergency, service personnel arriving at a residence might respond differently depending on whether or not an EFV is installed. For example, if service personnel find that a service line has been severed and the line is marked or otherwise identified as having an EFV, service personnel should recognize that the small amount of gas escaping from the severed line is from an EFV with a bypass feature and not from a pinched service line that could suddenly release a hazardous flow of gas. With this knowledge, service personnel can initiate correct repair procedures.

Accordingly, the rule will require that an operator must mark or otherwise identify the presence of an EFV in the service line.

Proposed Section 192.381(h)–(Contaminants)–RSPA proposed that EFV installation not be required on a service line where the operator can demonstrate that contamination in the gas stream will cause an EFV to malfunction. The Joint Commenters' approach eased the operator's burden of proof by allowing the operator to document, rather than demonstrate, an unsatisfactory level of contamination.

The Joint Commenters also recommended that EFV installation not be required where the EFV would interfere with operation and maintenance activities, such as blowing liquids from the line.

Comments on NPRM–Twenty-four commenters supported the proposal to except EFV installation where prior experience indicates contaminants will cause a malfunction. Several commenters stated, however, that it is unclear how an operator could make such a demonstration. NTSB said RSPA should state the requirements necessary to claim the exemption. Several commenters said they hoped that an operator would not have to install an EFV and wait for it to fail before being able to demonstrate that contaminants should preclude installation. Two commenters argued that if an operator has experience with clogging of valves, regulators, or meters from liquids or solids in certain areas of its system, such experience should be sufficient to demonstrate that an EFV should not be installed on that part of the system.

An EFV manufacturer agreed that an EFV should not be installed where contaminants would interfere with the proper operation of an EFV, but based on its experience felt it unlikely that many systems have sufficient contaminants to cause an EFV to malfunction. GASAC commented that requests for an exemption should be subject to public disclosure and a formal review process to prevent unwarranted exemptions.

Comments on Joint Commenters' Recommendation–AGA argued that the operator should determine whether to use EFVs in contaminated areas. AGA said a company might cite previous experience with service lines plugging with liquids or solids, plugging of other valves or service regulators, or knowledge of liquids or solid debris in certain parts of the system to justify not installing EFVs.

Another commenter said that iron oxide rouge from steel pipe mixed with tiny amounts of compressor fluids forms a sticky residue and prevented early model EFVs from successfully resetting following closure. The commenter said it is likely that no EFV on the market today is robust enough to withstand such contaminants and operate properly for the minimum expected life of 50 years estimated in the NPRM.

Response–RSPA agrees that an EFV is not recommended on a service line where the operator has prior experience with contaminants in the gas stream that could interfere with the EFV, cause loss of service to a residence, or cause an operator to incur undue expense in removing an inoperative EFV. An operator should, based on its previous history of service line or equipment problems from contaminants, decide whether it is appropriate to install an EFV. An operator should also consider if an EFV installed on a service line could interfere with the operator's operation and maintenance procedures.

Regulatory Notices and Analyses

Executive Order 12866 and DOT Regulatory Policies and Procedures

This final rule is a significant regulatory action under Executive Order 12866. Therefore, it was reviewed by the Office of Management and Budget. In addition, the final rule is significant under DOT's regulatory policies and procedures (44 FR 11034; February 26, 1979) because it concerns a matter of substantial interest to the public and Congress.

Cost/Benefit Analysis (EFV–Performance Standards)

Since the final rule does not require mandatory installation of EFVs, the performance requirements of this rule will not impact gas distribution systems not currently installing EFVs unless they begin installing EFVs. This rule will impact manufacturers of EFVs. As previously mentioned, OPS will be initiating a separate rulemaking to propose that customers be notified that EFVs are available for installation and will be installed at customer expense. This means that all gas distribution systems may soon be installing EFVs, and, thus, may be impacted by the new EFV performance standards.

The new EFV performance standards will help ensure that gas distribution companies that currently install EFVs, as well as those that begin to install EFVs on their own or because of a new notification rule, properly install these EFVs. Furthermore, these standards, by helping to ensure that newly installed EFVs are manufactured to function properly (e.g., close when they are supposed to and not close when they are not supposed to), will reduce the cost of improper closure to both gas distribution system operators and

the general public. The standards will also help keep substandard valves from entering the marketplace, thereby providing some assurance of reliability to both operators and customers. As a further result of these standards, reliable EFVs installed on compatible service lines will help mitigate the consequences of incidents on service lines.

The cost/benefit study accompanying this rule estimates and compares the benefits and costs of the EFV performance standards to determine whether the standards, taken as a whole, would be cost beneficial. This study estimates the expected benefits and costs of installing one EFV and uses these estimates to calculate a benefit/cost ratio. This approach yields the same benefit/cost ratio as an approach considers the number of EFVs installed in each year, but is less complicated and cumbersome, since it does not require the estimation of (1) the number of services expected to be renewed each year, (2) the number of new services expected to be installed each year, and (3) the number of existing services that will be discontinued each year.

The primary sources of EFV data used in the analysis were (1) the written submissions to the Docket for this rulemaking made by gas distribution companies, EFV manufacturers, and other interested parties and (2) direct contacts with gas distribution companies, EFV manufacturers, and other interested parties.

The pipeline incident data used in this analysis was taken primarily from the incident and annual report submissions made to OPS by gas distribution companies. These submissions are required under the Federal pipeline safety regulations.

All dollar figures in the study are given in nominal dollars, unless otherwise indicated. Where deflation of nominal dollar figures has been performed, the Producer Price Index, All Commodities, with 1993 as the base, has been used.

As summarized below, benefits, costs, and net benefits were developed for (1) the standards for EFV installation, (2) marking requirements, and (3) the performance requirements. The complete Benefit/Cost Analysis for EFV Performance Standards, dated August 1995, is available in the Docket.

Standards for EFV Installation

The final rule requires that an EFV installed on a single-family residential gas service that always operates at 10 psig or greater (1) must be rated by the manufacturer for use at the pressure and flow rate anticipated on the service line and (2) must meet the applicable requirements of Subparts B and D of Part 192. The final rule also recommends that an installed EFV be placed as near as practical to the main. Although this rule specifies standards for EFV installation, the installation of EFVs is not mandatory. However, if an EFV is installed, the regulatory standards will help ensure the EFV performs as expected and protects the maximum length of the most vulnerable portion of a service line.

The standards for EFV installation appear to be consistent with current industry practice. Consequently, the benefits, costs, and net benefits of the requirements are all expected to be $0 per EFV per year.

Marking Requirements

The new marking requirement will enable gas distribution system operating and service personnel to know if a service line has an EFV installed when responding to a service outage or other service line call. This will make it possible for the personnel to safely initiate correct repair procedures. The new marking requirement is expected to reduce deaths and injuries to gas distribution system personnel, and to reduce damage to the system and nearby property.

The requirement to mark or otherwise identify services with EFVs is consistent with current industry practice. As a consequence, the benefits, costs, and net benefits are all expected to be $0 per EFV per year.

Performance Requirements

The final rule sets performance requirements for all newly installed EFVs on single-family residential services operating at 10 psig or greater. These performance requirements are to be ensured through design, manufacturing, and testing by EFV manufacturers in accordance with an industry specification or with the manufacturer's written specifications.

The performance requirements will help ensure the reliability of EFVs. Greater reliability will result in (1) the replacement of fewer EFVs by gas distribution systems and (2) an increase in the number of EFV actuations when there are catastrophic service line breaks. The primary benefit of the new performance requirements will be an increased average reliability of the EFVs on the market. This assumes that all EFVs currently on the market are not fully consistent with the new requirements, which appears to be the case. A secondary benefit will be the assurance that the quality of EFVs will not degrade (with respect to the performance characteristics covered by the new performance requirements) in the future.

The new performance requirements for EFVs cover (1) rated maximum operating pressure, (2) the impact of external temperature, (3) sizing, (4) reduction in gas flow upon closure, and (5) inappropriate closure. The requirements for rated maximum operating pressure, the impact of external temperature, and sizing appear to be consistent with current industry practice. The benefits of the new performance requirements are expected to be between $15,675 and $1,254 per year. The costs are expected to be $0 per year. Consequently, the net benefits are expected to be between $15,675 and $1,254 per year.

The net benefits calculated for the performance requirements do not include (1) the costs related to the redesign of EFVs, (2) the full monetary value of the benefits accruing to gas distribution companies that currently install EFVs, and (3) the monetary value of the benefits that will accrue to gas distribution companies that install EFVs in the future.

Present Value of the Net Benefits

The net benefits for the new performance requirements are the sum of the net benefits of (1) EFV installation standards, (2) the marking requirements, and (3) the EFV performance requirements. Since the net benefits for the EFV installation standards and for the marking requirements are expected to be greater than $0 per year, while the net benefits for the new performance requirements are expected to be between $15,674 and $1,254 per year, the total net benefits for the EFV requirements specified in the final rule will be, at most, greater than $15,674, and, at least, greater than $1,254 per year. Discounted over 50 years (the life of an EFV assumed by OPS) using a 7 percent discount rate, the present value of the total net benefits is expected to be, at most, greater than $223,768, and, at least, greater than

$17,901. Since costs are $0, their present value is also $0 and the cost-to-benefit ratio is 0 at both the upper and lower bounds of the benefits.

Conclusion

The positive present value of the expected net benefits, as well as the cost-to-benefit ratio of 0 at both the upper and lower bounds on the benefits, indicate that the performance standards presented in the final rule will be cost beneficial.

Regulatory Flexibility Act

Based on costing assumptions discussed in the Cost/Benefit Analysis, this rule will not have an undue impact on small operators. Therefore, I certify under section 605 of the Regulatory Flexibility Act that the action will not have a significant economic impact on a substantial number of small entities.

E.O. 12612

This rulemaking action will not have substantial direct effects on states, on the relationship between the federal government and the states, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with E.O. 12612 (52 FR 41685; October 30, 1987), RSPA has determined that this final rule does not have sufficient federalism implications to warrant preparation of a Federalism Assessment.

National Environmental Policy Act

RSPA has analyzed this action for purposes of the National Environmental Policy Act (42 U.S.C. 4321 *et seq*.) and has determined that this action would not significantly affect the quality of the human environment. An Environmental Assessment and a Finding of No Significant Impact are in the docket.

List of Subjects in 49 CFR Part 192

Pipeline safety, Reporting and recordkeeping requirements.

In consideration of the foregoing, Part 192 is amended as follows:

PART 192–[AMENDED]

1. The authority citation for Part 192 continues to read as follows:

Authority: 49 U.S.C. 5103, 60102, 60104, 60108, 60109, 60110, 60113 and 60118; 49 CFR 1.53.

* * * * *

2. Part 192 is amended by adding §192.381 to subpart H to read as follows:

§192.381 Service lines: Excess flow valve performance standards.

(a) Excess flow valves to be used on single residence service lines that operate continuously throughout the year at a pressure not less than 10 psig must be manufactured and tested by the manufacturer according to an industry specification, or the manufacturer's written specification, to ensure that each valve will:

(1) Function properly up to the maximum operating pressure at which the valve is rated;

(2) Function properly at all temperatures reasonably expected in the operating environment of the service line;

(3) At 10 psig;

(i) Be sized to close at, or not more than 50 percent above the rated closure flow rate specified by the manufacturer; and

(ii) Upon closure, reduce gas flow–

(A) For an excess flow valve designed to allow pressure to equalize across the valve, to no more than 5 percent of the manufacturer's specified closure flow rate, up to a maximum of 20 cubic feet per hour; or

(B) For an excess flow valve designed to prevent equalization of pressure across the valve, to no more than 0.4 cubic feet per hour; and

(4) Not close when the pressure is less than the manufacturer's minimum specified operating pressure and the flow rate is below the manufacturer's minimum specified closure flow rate.

(b) An excess flow valve must meet the applicable requirements of Subparts B and D of this part.

(c) An operator must mark or otherwise identify the presence of an excess flow valve in the service line.

(d) An operator should locate an excess flow valve beyond the hard surface and as near as practical to the fitting connecting the service line to its source of gas supply.

(e) An operator should not install an excess flow valve on a service line where the operator has prior experience with contaminants in the gas stream, where these contaminants could be expected to cause the excess flow valve to malfunction or where the excess flow valve would interfere with necessary operation and maintenance activities on the service, such as blowing liquids from the line.

Issued in Washington, DC, on June 14, 1996.

D.K. Sharma
Administrator, Research and Special Programs Administration.

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